# 96th Street Oxbow Project

**February 11, 2004**

## Project Sponsor

South Puget Sound Salmon Enhancement Group (SPSSEG)
6700 Martin Way East, Suite 112
Olympia, WA 98516
Phone 360-412-0808
Fax 360-412-0809
*Contacts: Cedar Bouta, Executive Director and Lance Winecka, Project Manager*

## Project Description

The 96th Street Oxbow project is located on the right bank of the Puyallup River at river mile 14.5. The site is bounded by the Puyallup River on the west and is just downstream of the 96th Street Bridge crossing (see attached map). The oxbow is approximately 4 acres and has a perched drainage (10 feet above summer flows) to the river, and is predominately covered with Himalayan blackberry. Currently, the oxbow provides no beneficial function to fish.

This project would reconnect the oxbow and associated wetland to the mainstem of the Puyallup River by replacing the existing 12" diameter culvert with a 72" diameter aluminum culvert and excavating a 190-foot channel to 4-6 feet wide at 4.9% slope.

## Project Benefits

The culvert and roughened channel will provide juvenile salmonids access to the oxbow during most flow levels. Juvenile coho, chinook, steelhead and cutthroat will directly benefit from the habitat that will be made available by this project.

## Estimated Cost

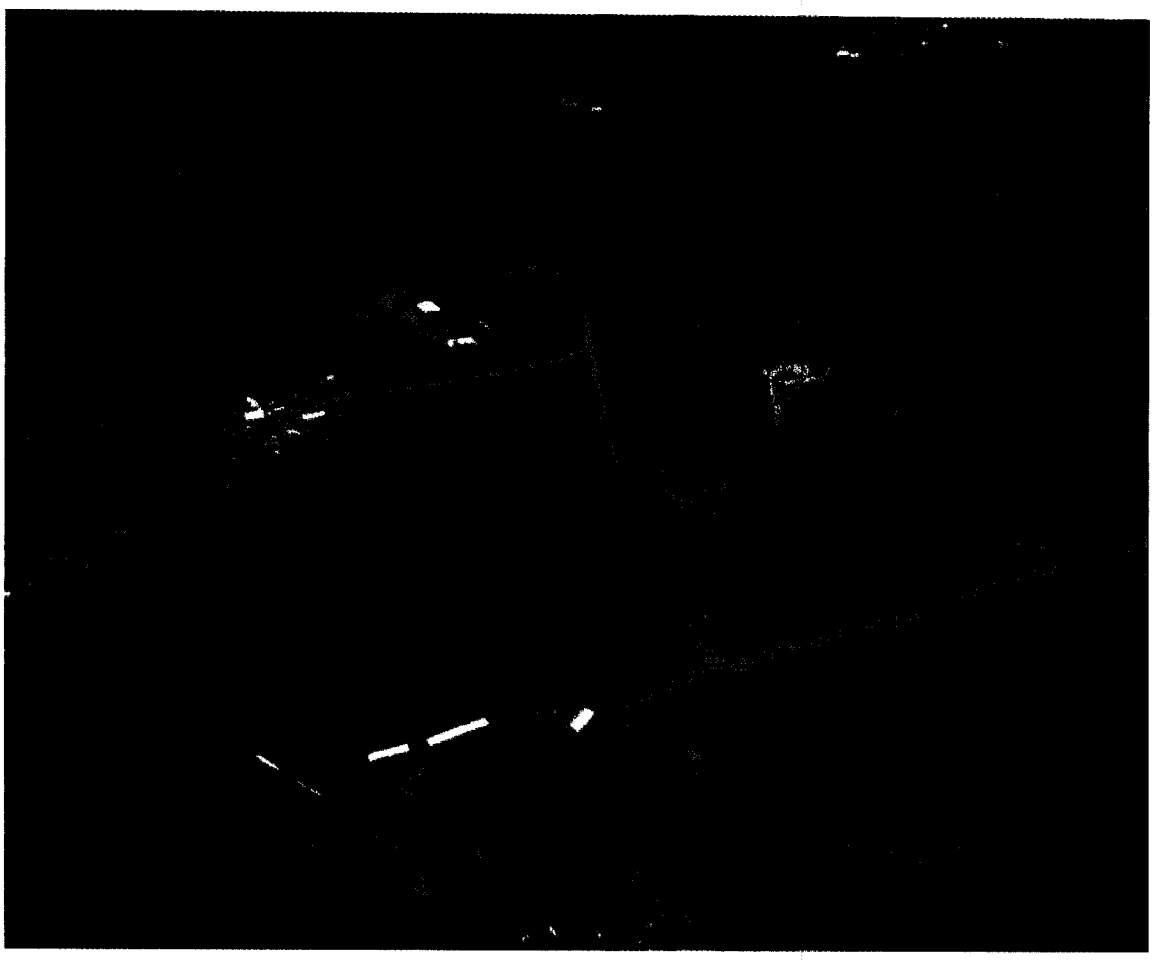
Current estimate is $149,100 (assumes 2005 construction). The estimate will be refined after project goes out to bid. Currently have a $61,524 cash shortfall. (See attached budget.)

## Timeline

1998 Puyallup Tribe identifies project and initiates activities.
1999 Pre-engineering completed (95% complete) by Fisheries Consultants using South Puget Sound Salmon Enhancement Group (SPSSEG) funding.
1999 HPA submitted by SPSSEG. LOA between Pierce County and SPSSEG drafted.
2000 $49,676 in IAC/SRFB funding secured in March 2000 by SPSSEG. Grant expires February 2005.
2003 December - IAC/SRFB reviews project progress and requests action by SPSSEG.
2004 January - Draft Hydraulic Study completed by US Army Corps of Engineers finds that the flood hazard will not be increased by enlarging culvert. County initiates field survey to ground-truth assumptions and revises LOA.

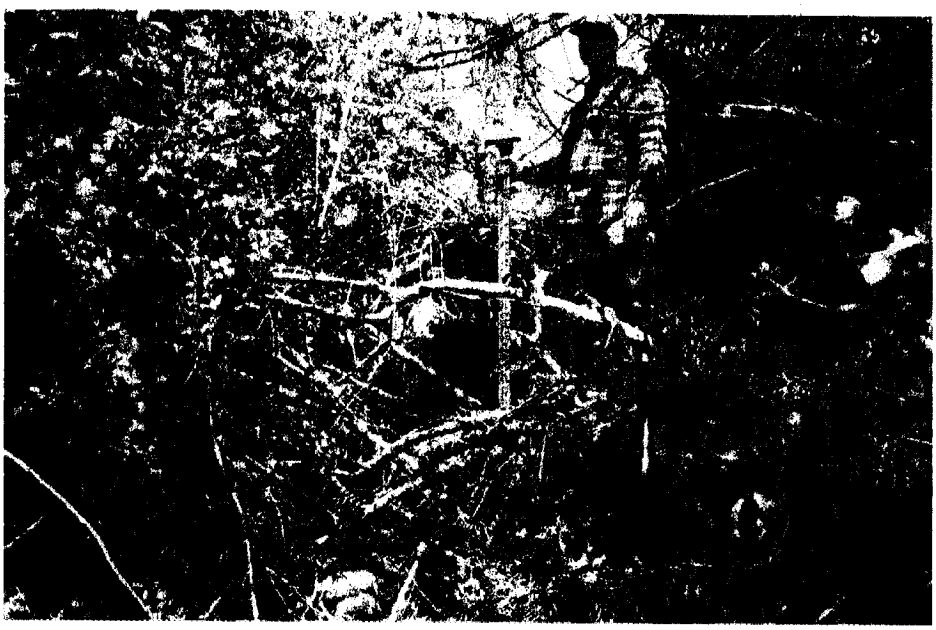
2004 Winter – finalize engineering, permits, and LOA. Secure additional funding.
2004 Spring – bid construction contract.
2004 Summer – construct project.
2005 IAC/SRFB grant expires.
2006 5 Initiate monitoring for 3-5 years.

**1. Project Location: Project just outside bottom right corner of photo (downstream of 96th Street bridge).**



**Project Views**

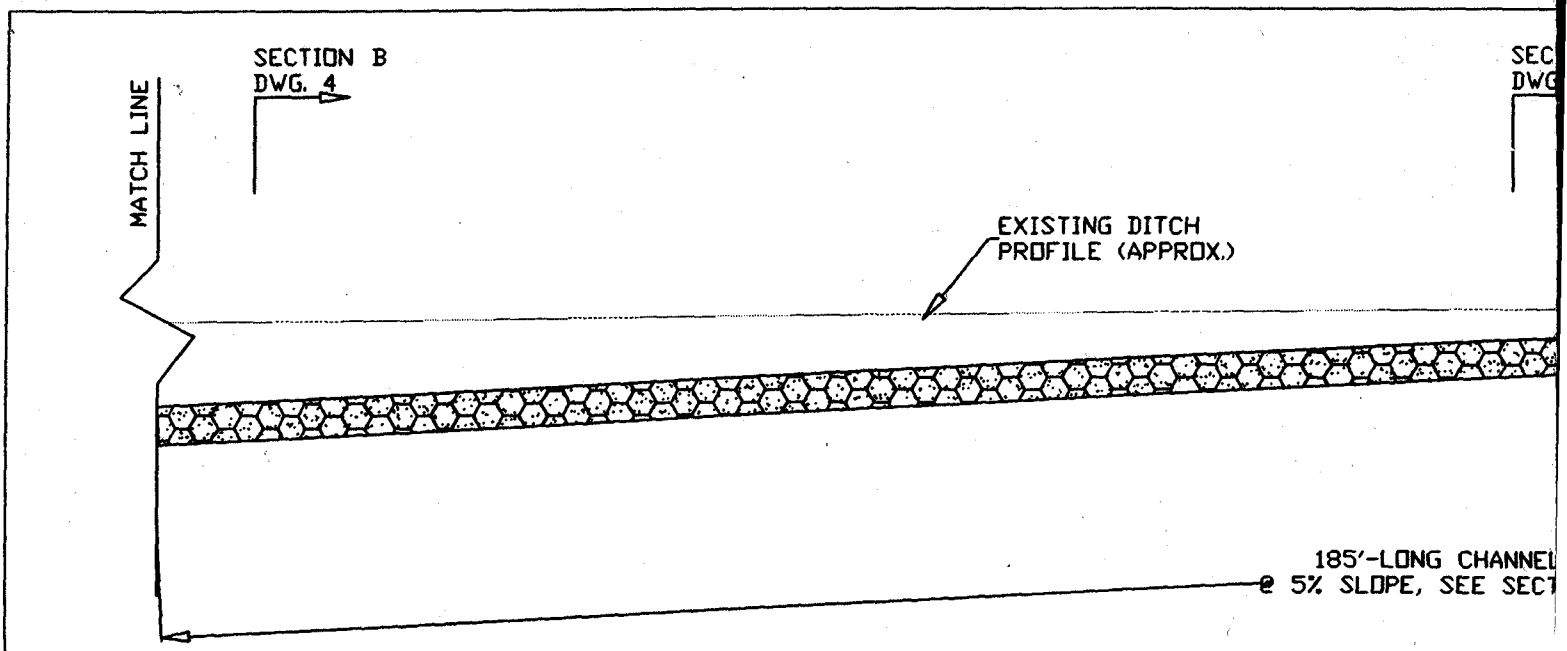
**1. Levee outfall and 12" culvert**

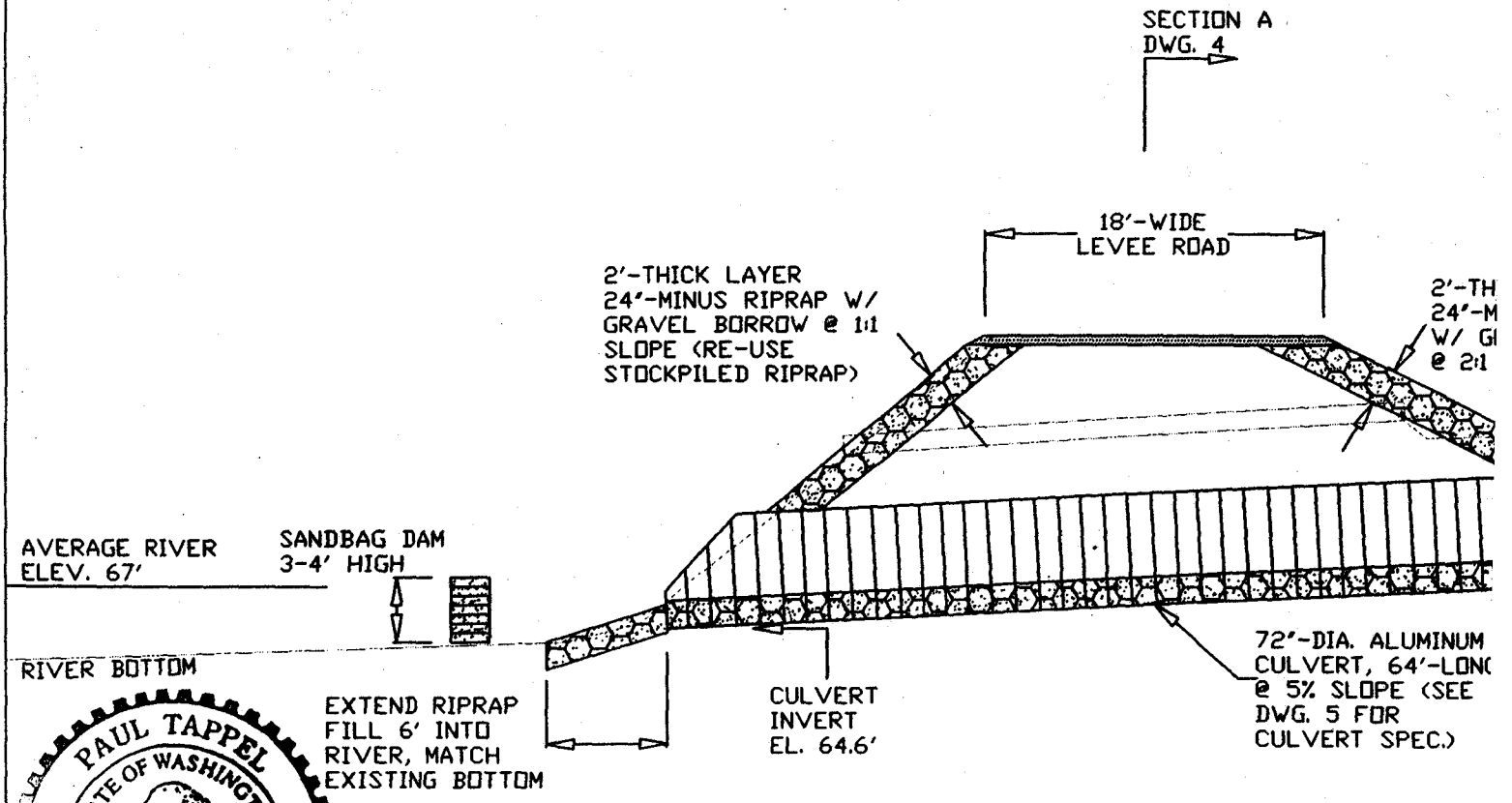


**3. Looking from levee up the ditch. County's wetland control weir.**

# 96th Street Oxbow Project

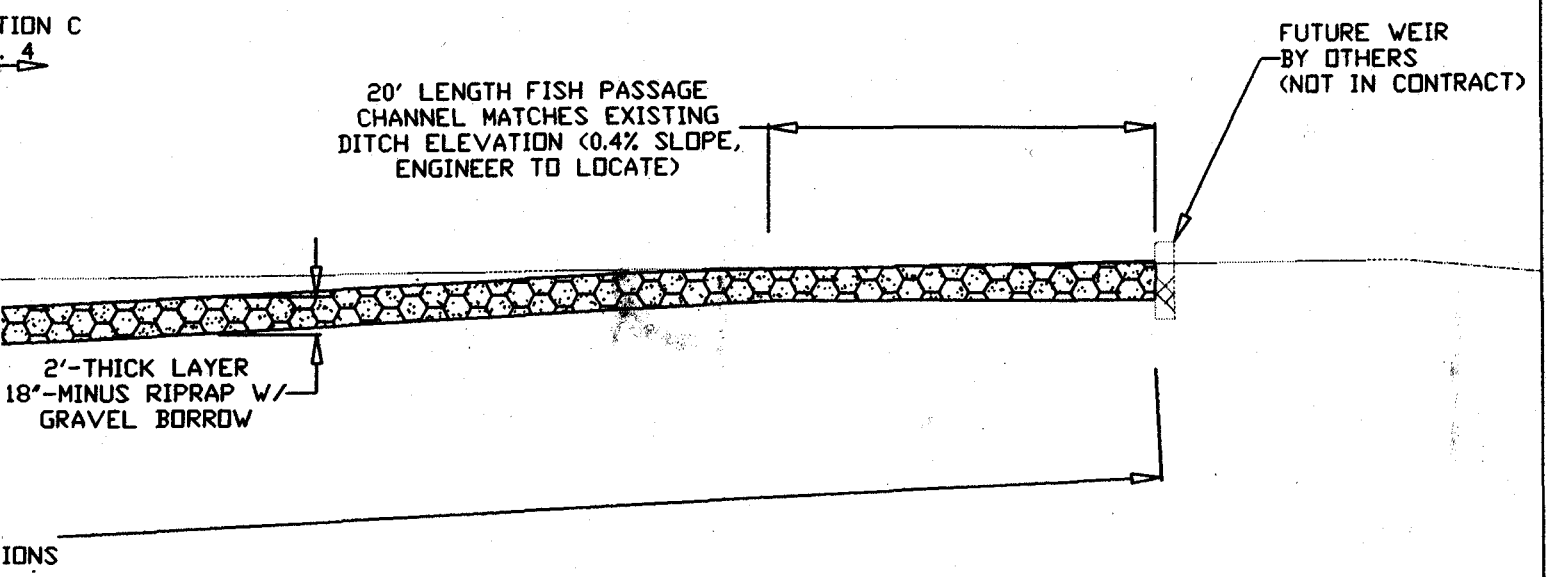
| | | | |
|---|---|---|---|
| **Project Costs** | | | |
| **Cash** | | | |
| Construction Contract | $82,000 | | |
| Construction Contingency (10%) | $8,200 | | |
| Supplies | $24,000 | | |
| Engineering | $8,000 | | |
| Project Administration | $10,000 | | |
| Revegetation management & Monitoring | $3,000 | | |
| | | ***$111,200*** | |
| **Match** | | | |
| Puyallup Tribe - flood study | $30,000 | | |
| Army Corps - flood study | TBD | | |
| SPSSEG - pre-engineering | $2,700 | | |
| Pierce County - survey | $5,200 | ***$37,900*** | |
| ***Estimated Total Project Cost*** | ***$149,100*** | | |
| **Project Revenues** | | | |
| **SRFB Cash** | ***$49,676*** | ***$49,676*** | ***Cash Available*** |
| | | ***$111,200*** | ***Cash Needed*** |
| | | ***($61,524)*** | ***Balance*** |
| **Match** | | | |
| Puyallup Tribe - flood study | $30,000 | | |
| Army Corps - flood study | TBD | | |
| SPSSEG - pre-engineering | $2,700 | | |
| Pierce County - survey | $5,200 | | |
| | $37,900 | ***Match Percent*** | ***76.3%*** |
| **Total Available Revenues** | **$87,576** | | |
| **Estimated Project Costs** | **$149,100** | | |
| **Balance** | **($61,524)** | | |

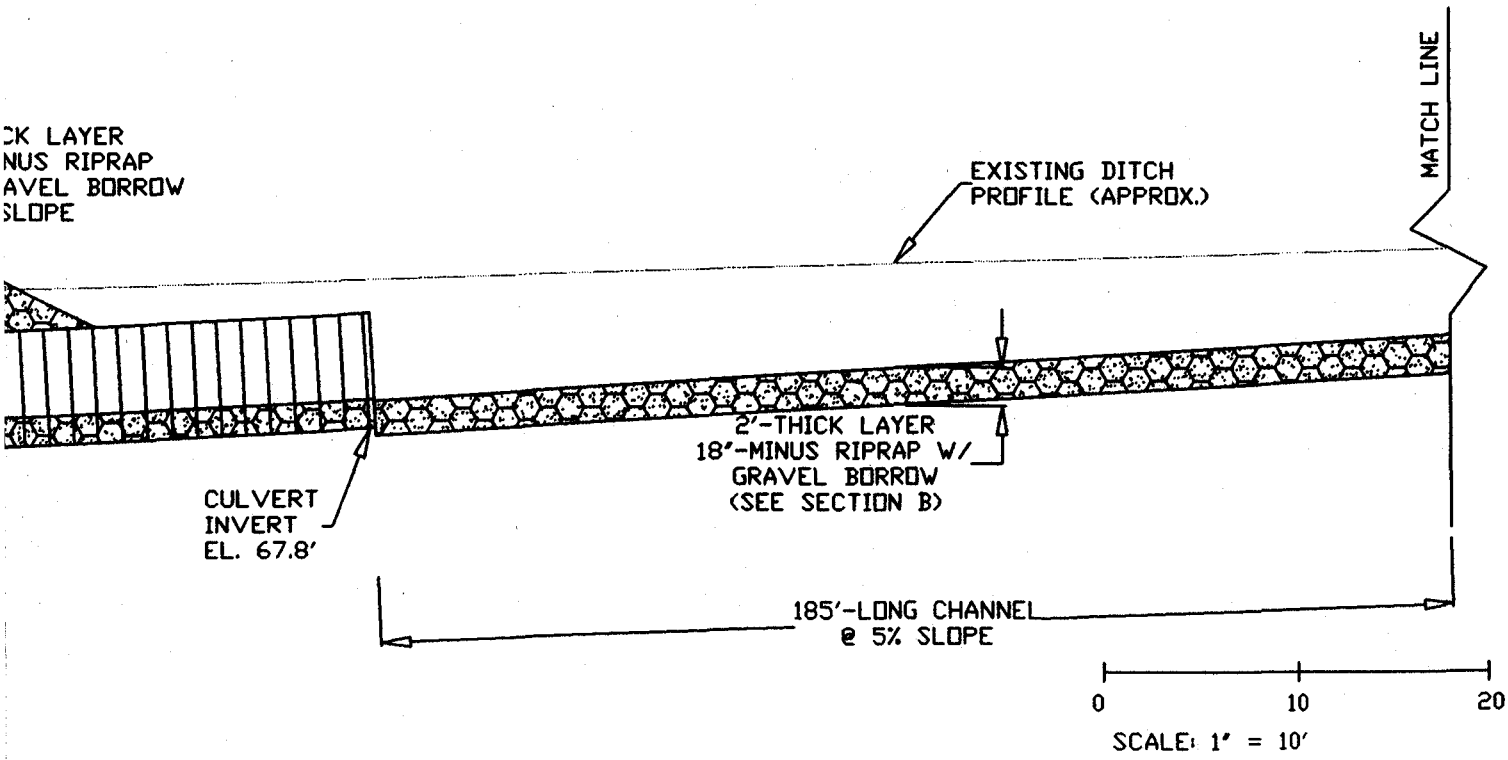



FISH PASSAGE CHANNEL
CENTERLINE PROFILE

PAUL TAPPEL
STATE OF WASHINGTON
23801
REGISTERED
PROFESSIONAL ENGINEER
EXPIRES 9/28/00




SOUTH PUGET SOUND SALMON
ENHANCEMENT GROUP
FISH PASSAGE PROJECT @ 96th St. E
CENTERLINE PROFILE
DRAWING 3

CONSTRUCTION SEQUENCE & NOTES:

1. SPSSEG's engineer will locate culvert ends, channel centerline, and top of excavation with stakes @ 20' on-center. Contractor to set off-set stakes for construction.

2. Place temporary sandbag dam in river around culvert outlet. Pump clear or cloudy water back into river. Pump muddy water over bank for infiltration.

3. Clear brush from work area and haul away for off-site disposal.

4. Stockpile 150 cubic yards topsoil on-site from upper foot of site excavation. Use for final surface soil layer.

5. Remove riprap from existing riverbank and stockpile. Contract quantity assumes 20 cubic yards riprap recovered from bank.

6. Stockpile material excavated from riverbank and re-use as riverbank backfill (500 CY approx.).

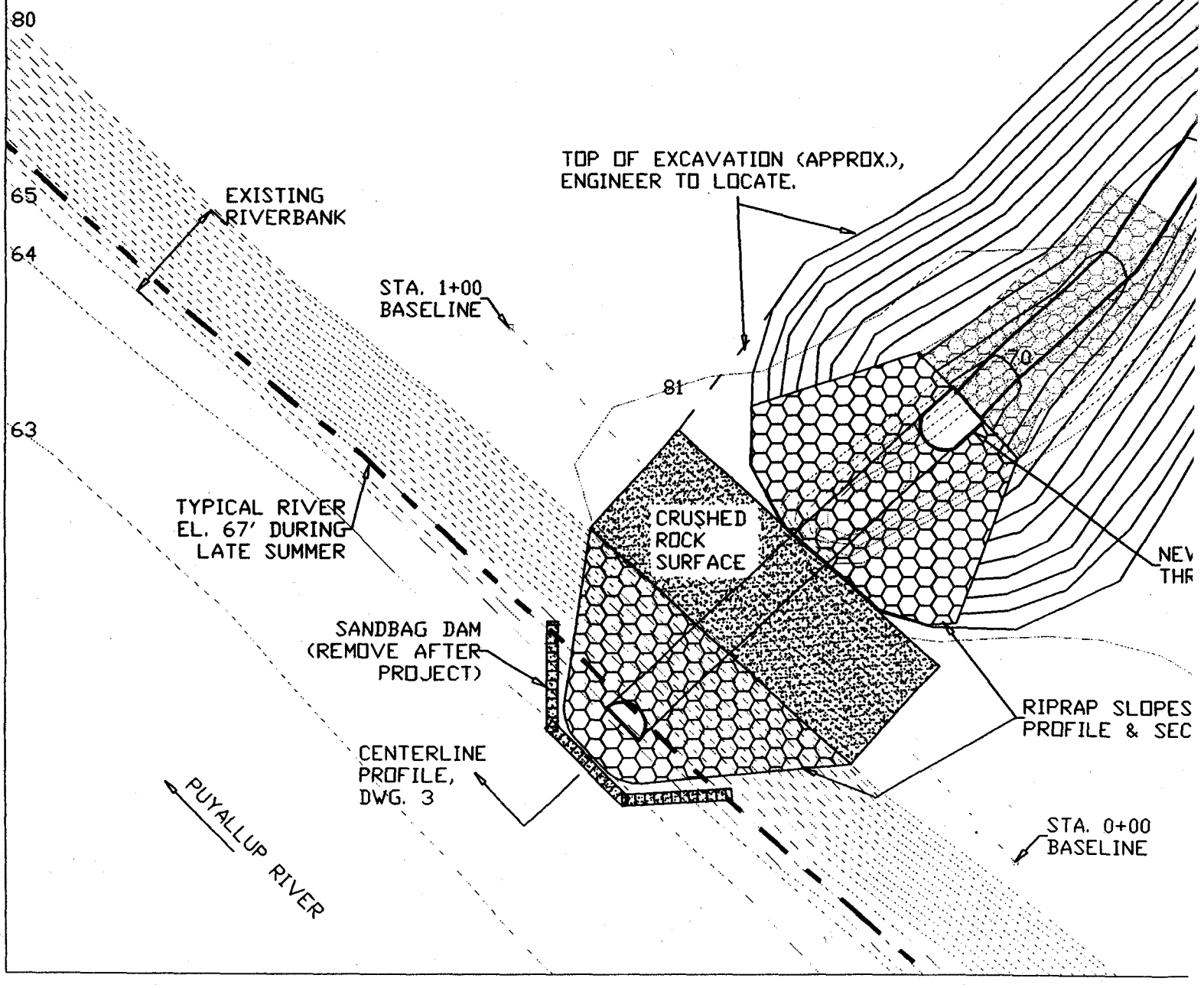
7. Excess excavated material shall be hauled off-site and disposed by Contractor.

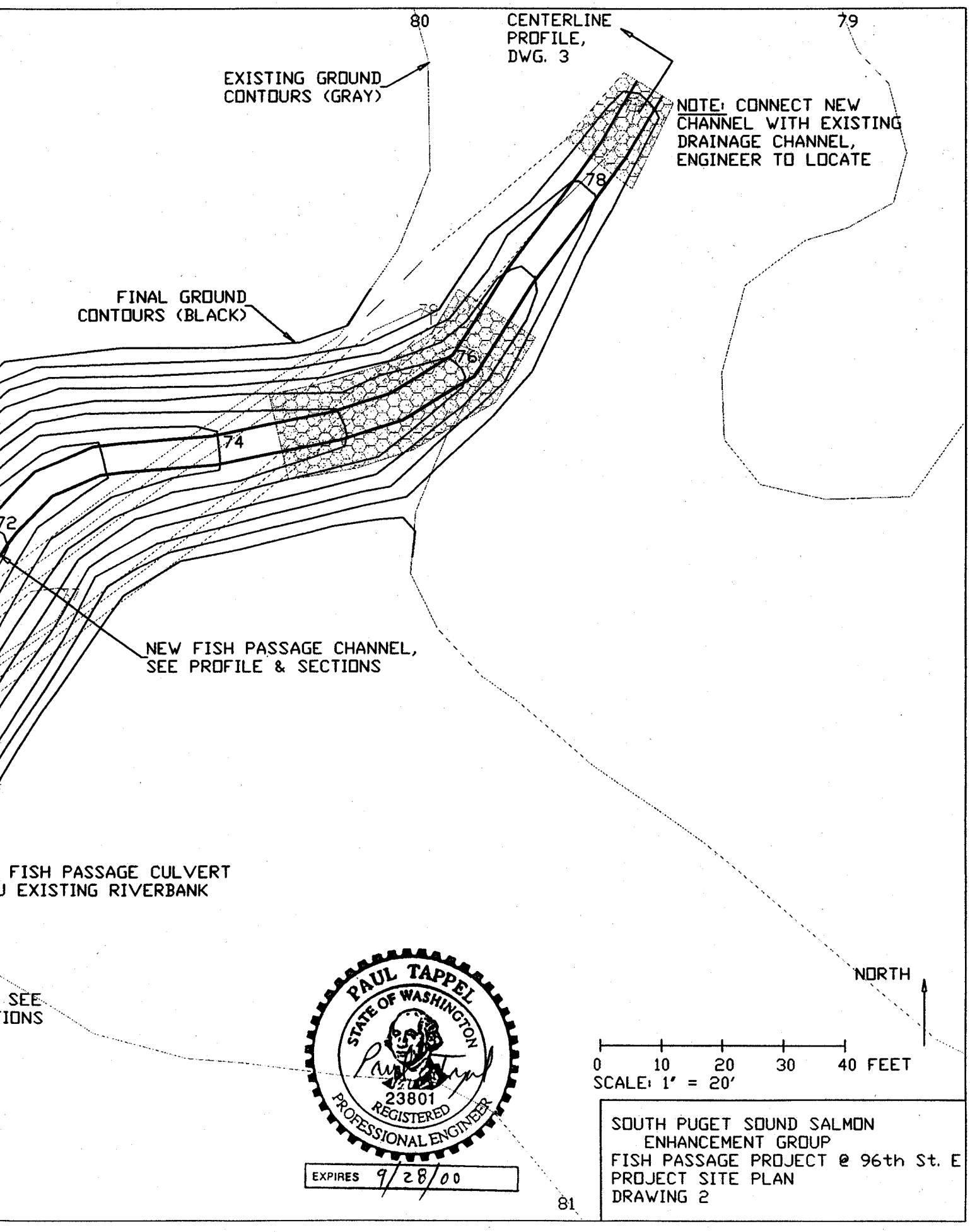
8. Install fish passage culvert and fill interior of pipe with specified material. Inspection of the completed culvert by Pierce County is required prior to culvert exterior backfill. Backfill around culvert shall be as specified, with methods approved by Pierce County. If adequate inspection by County is not allowed, it may be necessary for core drilling and testing to be performed to assure an acceptable quality. The Contractor shall be held responsible for all costs required to test backfill (if backfill material & methods not approved/inspected by County).

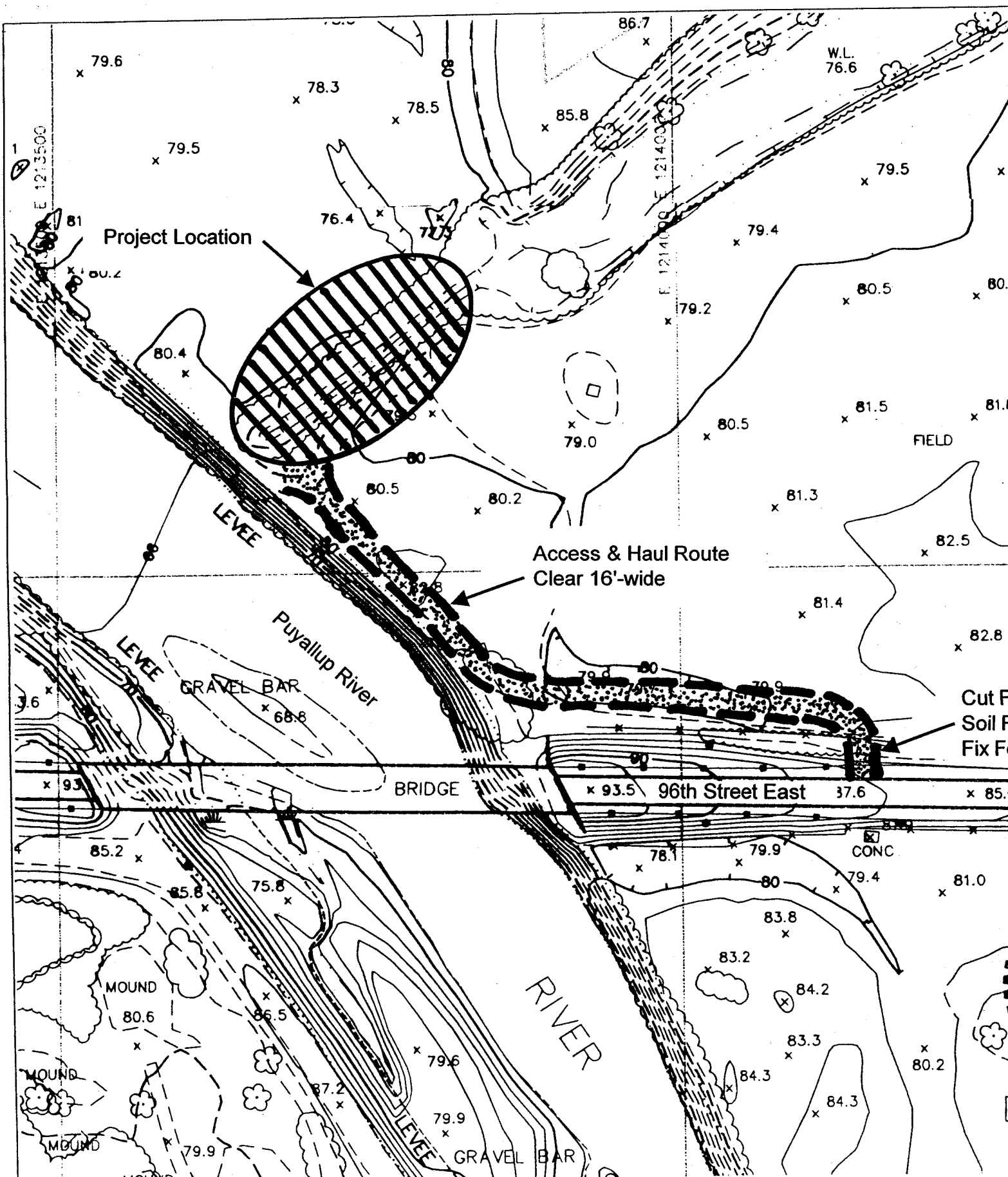
9. Place riprap fill around culvert ends and on riverbank, and construct fish passage channel (riprap w/ gravel borrow).

10. The Contractor shall protect construction slopes from erosion. In case erosion occurs, rock lining is to be provided as requested and specified by the County or SPSSEG (this would be an additional pay item covered by Change Order).

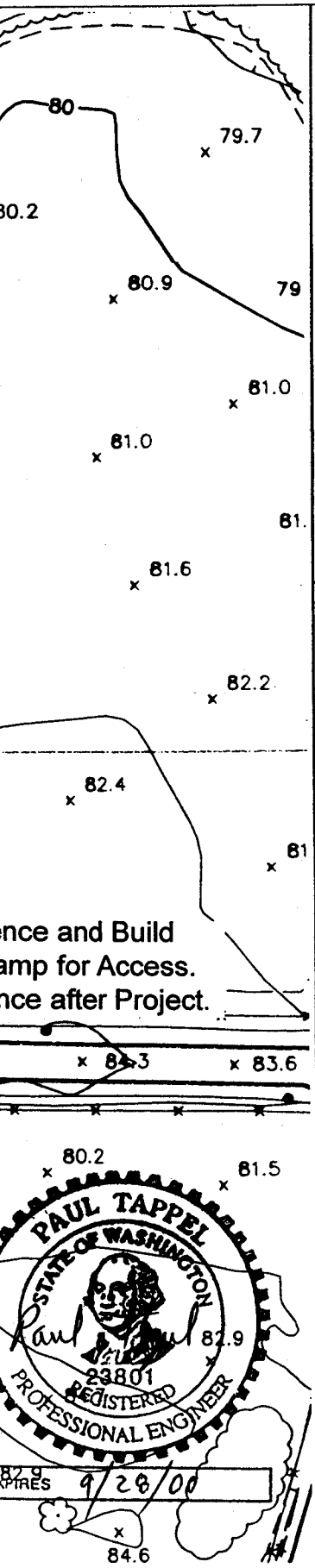
11. After project completion, hydroseed all disturbed soils and new slopes with erosion control mix (mulch, fertilizer, seed) specified by Pierce County.

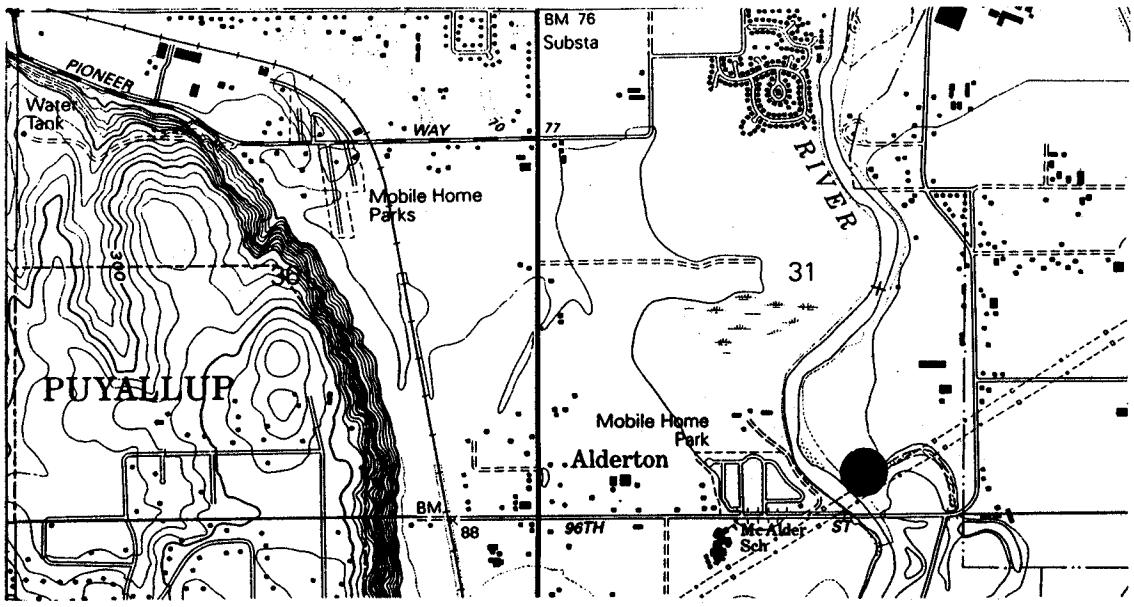



80
CENTERLINE PROFILE, DWG. 3
79
EXISTING GROUND CONTOURS (GRAY)
NOTE: CONNECT NEW CHANNEL WITH EXISTING DRAINAGE CHANNEL, ENGINEER TO LOCATE
78
FINAL GROUND CONTOURS (BLACK)
76
74
72
NEW FISH PASSAGE CHANNEL, SEE PROFILE & SECTIONS
FISH PASSAGE CULVERT
EXISTING RIVERBANK
SEE
IONS
NORTH
0 10 20 30 40 FEET
SCALE: 1' = 20'
PAUL TAPPEL
STATE OF WASHINGTON
23801
REGISTERED
PROFESSIONAL ENGINEER
EXPIRES 9/28/00
81
SOUTH PUGET SOUND SALMON
ENHANCEMENT GROUP
FISH PASSAGE PROJECT @ 96th St. E
PROJECT SITE PLAN
DRAWING 2




PROJECT ACCESS & HAUL ROUTE
(SCALE 1" = 100')




PROJECT LOCATION NEAR PUYALLUP, WA

GENERAL NOTES & REQUIREMENTS:

1. South Puget Sound Salmon Enhancement Group (SPSSEG) is funding this fish passage project.

2. Project is within Pierce County property or right-of-way. Before work starts, Contractor shall provide proof of liability insurance in an amount sufficient to Pierce County Risk Management and shall post a $60,000 financial guarantee to assure completion of work. The Pierce County Risk Management Office can be contacted for information and details concerning liability insurance requirements.

3. SPSSEG shall designate Pierce County contact for project coordination. Contractor shall notify this Pierce County contact at least 48 hours before construction is started.

4. A copy of these plans must be on the job site whenever construction is in progress. Any revisions to these plans must be made by SPSSEG's engineer and approved by Pierce County prior to any implementation in the field.

5. All materials and workmanship shall be in accordance with the requirements of the 1998 Washington State Department of Transportation Standard Specifications for Road, Bridge, and Municipal Construction, and Pierce County Public Road Standards.

6. The Contractor shall call a utilities location service prior to on-site work. It is the Contractor's responsibility to assure that all buried lines, overhead lines, and other utilities are protected during the work. All utility repair resulting from Contractor's operations shall be the responsibility of the Contractor.

7. On-site erosion control measures shall be the responsibility of the Contractor. Any problems occurring before final acceptance by SPSSEG and Pierce County and within 6 months thereafter shall be corrected by the Contractor.

DRAWING LIST:

1. PROJECT LOCATION & NOTES
2. PROJECT SITE PLAN
3. PROFILE
4. SECTIONS AND DETAILS
5. CULVERT DETAILS

SOUTH PUGET SOUND SALMON
ENHANCEMENT GROUP
FISH PASSAGE PROJECT @ 96th St. E
PROJECT LOCATION & NOTES
DRAWING 1